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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/028,456	02/24/1998	YASUhide OHASHI	JAO-40656	4717

7590 12/13/2001

OLIFF & BERRIDGE
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ALEXANDRIA, VA 22320

EXAMINER

THAI, LUAN C

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 12/13/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/028,456

Applicant(s)

OHASHI, YASUhide

Examiner

Luan Thai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24, 25, 32-35, 46 and 47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24, 25, 32, 34, 35 and 46 is/are rejected.
- 7) ☒ Claim(s) 33 and 47 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 1998 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Prosecution Application

1. The request filed on October 29, 2001 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/028,456 is acceptable and a CPA has been established.

2. Since none of Preliminary Amendment has been received along with the request filed on October 29, 2001 for a Continued Prosecution Application (CPA), this Office Action is responsive to the last Amendment filed on August 28, 2001.

Claims **24-25, 32-35, and 46-47** are pending in this application.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 34-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamura et al. (5,334,803).

Yamamura et al. disclose (figures 1-31, specifically figures 15-16) a semiconductor chip 23, comprising: a plurality of signal pads 25-26 electrically connected to leads 7, a plurality of power source and grounding pads 24, being arranged in lines and electrically connected to grounding common lead 27 and power common lead 28, wherein all of pads for signal are disposed in areas closer to edges X-Y (see figure 15) of chip 23.

Lee et al. (5,097,271, figure 3) also teaches all the limitations of the claimed invention as claimed in claim 34-35; therefore, these claims are also rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al. for the similar reasons detailed above.

5. Claim 25 is rejected under 35 U.S.C. 102(e) as being anticipated by Sugahara (5,801,434).

Sugahara discloses (figures 1-7, specifically figures 5-7) a semiconductor device, comprising: a semiconductor chip 6 having a plurality of pads 7; a flexible substrate 1a-1b having an opening formed therein, the flexible substrate having a common lead 5' (see figures 5A-5B) which has an electrical connection branch 3 connected to one of pads 7; the common lead 5 having a middle portion, the middle portion extending from two edges of the opening and continuously being positioned inside the opening without connection to the pads, and end portions of

common lead 5 being formed on flexible substrate 1A-1B (see figures 5B and 7B).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 24, 32, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamura et al. (5,334,803) in combination with Michii (5,252,853 of record).

Regarding claim 24, Yamamura et al. disclose the features of the claimed invention as detailed above except for a flexible substrate having an opening formed therein.

Michii while relates to a similar semiconductor package design teaches (figures 1-4, specifically see figures 2-3) a semiconductor device comprising: a chip 1 having signal pads 4, ground pads 2, and power pads 3; a flexible substrate having an opening formed therein, wherein the flexible substrate is used for attaching leads 8, power source common lead 3, and ground common lead 2 to the semiconductor chip 1, and wherein the middle portions of the common leads 2-3 being continuously positioned inside the opening and the end portions being formed on the flexible substrate. It would have been obvious to

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one of ordinary skill in the art at the time the invention was made to apply Michii teachings of the flexible substrate to Yamamura et al. device in order to simplify the process of positioning power source common lead, ground common lead, and other leads on a semiconductor chip.

Regarding claims 32 and 46, the proposed device of Yamamura et al. and Michii discloses the limitations of the claimed invention as detailed above with the exception of the common leads protruding in the opening of the flexible substrate in a direction different from a direction in which all the leads protrude in the opening. However, the common leads such as power source common lead and ground common lead positioning on a semiconductor chip in a direction different from a direction in which other leads position on the chip are conventional in semiconductor art, specifically in lead-on-chip structure art for simplify the process of positioning the common leads on the chip. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the proposed device of Yamamura et al. and Michii by positioning the common leads on a semiconductor chip in a direction different from a direction in which other leads position on the chip, since such modification has been held to be within the general skill of a worker in the art. Note that US Pat. No. 5,585,665 to Anjou et al. (figures 1-10) is cited to support the well known position.

Allowable Subject Matter

8. Claims 33 and 47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. The following is a statement of reasons for the indication of allowable subject matter: the cited arts fail to teach or render obvious the common lead having an electrical connection branch, a portion of the electrical connection branch being positioned in the opening, an other portion of the branch being formed on the flexible substrate, and the electrical connection branch and the leads protrude in the opening in the same direction.
10. Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

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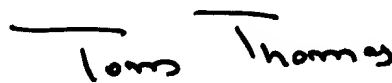
11 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan Thai whose telephone number is (703) 308-1211. The examiner can normally be reached on 7:00 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (703) 308-2772. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Luan Thai

December 11, 2001


TOM THOMAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800